DEPARTMENT OF THE NAVY
NAVAL MEDICAL ADMINISTRATIVE UNIT
PRESIDIO OF MONTEREY ARMY HEALTH CLINIC
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8 Mar 11

From: Officer In Charge, Naval Medical Administrative Unit, Monterey
To: Officer In Charge, Naval Center for Information Dominance, Detachment Monterey, 412 Rifle Range Road, Monterey CA 93944

Subj: TWO-YEAR INDUSTRIAL HYGIENE SURVEY, NAVAL CENTER FOR INFORMATION DOMINANCE, DETACHMENT MONTEREY

Ref: (a) OPNAVINST 5100.23G, Chapter 8

Encl: (1) Industrial Hygiene Report 30570-11

1. As required by reference (a), a two-year industrial hygiene survey of your command was conducted on 3 March 2011 by the Naval Medical Administrative Unit, Monterey Industrial Hygienist. The purpose of this survey was to assess the status of occupational health hazards in the workplace, recommend improvements with corrective actions, and update the exposure monitoring plan (EMP).

2. The cooperation and hospitality shown by your Safety Manager contributed to a timely assessment of the occupational health portion of your command's NAVOSH program. This assistance was highly appreciated.

3. There was only one survey finding, but it was a repeat finding from the previous survey. **Please provide a response as to action taken on this item directly to the Industrial Hygienist by 12 May 2011.**

4. If further consultation on this report is needed, please contact S. Eric Thurston, Industrial Hygienist at COMM (831)656-2477, email sethurst@nps.edu.

S. E. THURSTON
By direction

Copy to:
NHL IH Dept Hd

Industrial Hygiene Survey
of
Naval Center for Information Dominance
Detachment, Monterey
Report 30570-11
3 March 2011

Survey Conducted by: S. Eric Thurston,
Industrial Hygienist

Survey Reviewed and Approved by: Michael J. Puckett, MPH, REHS
Supervisory Industrial
Hygienist

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EXECUTIVE SUMMARY

1. A two-year industrial hygiene survey of the Naval Center for Information Dominance Detachment, Monterey was conducted on 3 March 2011 to assess the occupational health portion of the command's NAVOSH Program.

2. The organization of the report is as follows:

- Discussion, Findings and Recommendations
- IH Exposure Assessment/Monitoring Plans, Appendix A
- Sampling Results, Appendix B
- Measured Equipment Noise Levels, Appendix C
- Local Exhaust Ventilation System Evaluation, Appendix D
- Respiratory Protection Program Matrix, Appendix E
- Medical Surveillance Program Matrix, Appendix F
- Occupational Health Training Matrix, Appendix G
- Standardized IH Glossary, Appendix H

3. The only survey finding is that personnel operating the older Eureka upright vacuum cleaner need to wear hearing protection during its use. **This is a repeat finding from the previous survey**.

4. Overall, the occupational health portion of your NAVOSH Program is **Highly Satisfactory**.

DISCUSSION, FINDINGS, AND RECOMMENDATIONS

Reference: (a) OPNAVINST 5100.23G

As required by Chapter 8, Appendix 8-B of reference (a), a two-year industrial hygiene survey of the Naval Center for Information Dominance, Detachment, Monterey was conducted on 3 March 2011. The primary purpose of this survey was to identify and assess exposure to occupational hazards, review the occupational health portions of the NAVOSH program, and update the Exposure Monitoring Plan (EMP).

A. ENGINEERING CONTROLS: Not applicable.

B. RESPIRATORY PROTECTION PROGRAM (RPP): Personnel do not wear respirators during performance of their duties, and they are not worn on an elective basis.

C. HAZARDOUS MATERIAL CONTROL AND MANAGEMENT PROGRAM (HMCM): The command's program is excellent. A current hazmat inventory list has been developed, and a spot check indicates MSDSs are available for chemical products and that they are properly assigned numbers for cross-referencing as required by Chapter 7, section 0702g of reference (a). Low toxicity cleaning products are very neatly stored in a basement walk-in closet. Hazardous materials training is provided to personnel using chemical cleaning products by the Safety Manager when they check into the command, and this training is properly documented. When personnel have established ESAMS accounts, this system is used to supplement the training provided by the Safety Manager.

D. HEARING CONSERVATION PROGRAM (HCP): Exposure to hazardous noise levels in this command is currently limited to operation of an older model upright vacuum cleaner. Based on its measured noise level, hearing protection is required by Chapter 18, paragraph 1807a of reference (a) during use of the old Eureka Precision Triple Filter Upright Vacuum Cleaner. However, since its calculated 8-hour TWA exposure is far below the NOEL, personnel operating this item do not require formal hearing conservation training or audiograms (medical hearing tests).

FINDING 03570-11-1: The noise level of the Eureka Precision Triple Filter Upright Vacuum Cleaner exceeds 84 dBA, but personnel operating it do not wear hearing protection. **This is a repeat finding from the previous survey**.

RECOMMENDATION 03570-11-1: Personnel need to wear the Sound Guard disposable ear plugs stored in the basement hazmat and PPE storage room during operation of this vacuum as required by Chapter 18, paragraph 18078a of reference (a).

E. PERSONAL PROTECTIVE EQUIPMENT (PPE): The following PPE is worn for protection against potential health hazards associated with vacuum or lawn maintenance equipment operations. All PPE were found to be clean, serviceable, and properly stored.

PPE	PROCESS/PURPOSE
Thin Conform XT latex exam gloves	Low toxicity chemical cleaning products
Grinding goggles and Sound Guard disposable ear plugs	Engraving nameplates

F. ERGONOMICS: The only potential ergonomics hazards present involve occasional lifting and moving furniture, and constant typing performed by command yeomen. Personnel receive ergonomics, including back injury prevention, training through 3 sources: when they check into the command (indoctrination), annual general military training (GMT), and through ESAMS. Injuries have not occurred in the past 2 years resulting from either heavy lifting, but an office ergonomics consultation was provided by the Naval Postgraduate School, Monterey, Safety and Occupational Health Office where discomfort that could result in a repetitive strain injury was a factor.

G. OCCUPATIONAL REPRODUCTIVE HAZARDS PROGRAM (ORHP):

Per reference (a), Chapter 29, reproductive hazards are posed by the following chemical products because of the presence of alcohols in their formulation:

- ZEP Ring Master All Purpose Bathroom Cleaner
- ZEP Meter Mist Country Garden Odor Counteractant
- Chempak Type 1 Glass Cleaner
- Lighthouse of Houston or Skilcraft Pine Oil Disinfectant-Detergent Cleaner
- B & K Air Santizer Disinfectant
- Whirlwind Non-Acidic Bathroom Cleaner

In addition, the following paints contain xylene, toluene, or both as part of their solvent formulation:

- Sherwin & Williams Ace Pro Enamel
- Sherwin & Williams Control Rust Metal Enamel, Ultra Deep Base

G. OCCUPATIONAL REPRODUCTIVE HAZARDS PROGRAM (ORHP) (continued):

Alcohols and toluene present a hazard to a developing fetus, while xylene presents a reproductive hazard to females. As discussed in the Appendix A exposure assessment section of this report, significant exposures are not expected.

H. MEDICAL SURVEILLANCE PROGRAM (MSP): See Appendix G for the Medical Surveillance Program Matrix. Medical surveillance for occupational health-related exposures are unnecessary based on the results of this and previous industrial hygiene surveys.

I. OCCUPATIONAL HEALTH-RELATED TRAINING MATRIX: See Appendix G for the Training Matrix based on occupational health-related assessments conducted by the Industrial Hygienist. Additional training for safety-related hazards or requirements may be identified separately by the command’s Safety Manager, or as automatically prescribed by the Enterprise Safety Applications Management System (ESAMS) (currently used to satisfy OSH training requirements) for each individual user when he or she logs onto the system.

APPENDIX A

IH EXPOSURE ASSESSMENT/MONITORING PLAN		
WORKPLACE INFORMATION		
Organization: **Naval Center for Information Dominance Detachment, Monterey**		
Location: Bldgs 424, 629A and B	Office In Charge: LCDR Thor Martinsen	*Phone*: 831-656-5525
Workers: 51 permanently assigned, approximately 650 students at any one time	*Male*: 35 staff, # of students varies	*Female*: 16 staff, # of students varies

Operations:
-Coordinates and provides administrative support for Naval students attending foreign language training classes in conjunction with the Army's Defense Language Institute (DLI). The number of transient students (either awaiting the start of classes or awaiting departure to their next duty station when their classes are complete) highly varies. These are the personnel who use the chemical cleaning products and paints, and move furniture as described below.
-Use minimal amounts of low toxicity cleaning supplies, operate several upright vacuum cleaners, polish metal surfaces with a Luster Metal Polish Pad, and occasionally lift heavy furniture in the building. Carpet shampooing is no longer performed by command personnel.
-Shreds documents using small basket paper shredders in individual offices and one large document paper shredder located in the main building's vault, but the shredding machine used for years in the vault is broken and awaiting replacement. Currently shredding in the vault does not occur.
-Plastic and brass nameplates are made for staff using an engraving machine located downstairs.
-Operate and use desktop computers.
-Self-Help painting involving both latex and oil-based paints and applied using brush or roller is performed occasionally on the building exterior. Mineral spirits is used to remove residual oil-based paint from brushes and rollers.

*** = Reproductive Hazard**

WORK TASK	POTENTIAL HAZARD	# OF WORKRS	FREQUENCY/ DURATION	MONITORING RECOMMENDED?
Chem cleaning	Solvents	Varies	< 1 oz/day	No-EA Chem
Polishing	Pet distillate	Varies	2x/wk, 10 mins	No-EA Noise
Vacuuming	*Noise	Varies	Daily, 10 mins	No-EA Noise
Carpet cleaning	*Noise	Varies	Rare, 10 mins	No-EA Noise
Lift furniture	Ergonomics	Varies	Unplanned	N/A
Computer use	Ergonomics	10-12	Daily, 3-4 hrs	N/A
Nameplate engravng	Cu,ZnO3 dust, *Noise	3	2x/wk, 5 mins	No-EA Noise and Chem
Self-Help painting	*Tol,*xyl,slvnts	Varies	Varies	No-EA Chem

IH EXPOSURE ASSESSMENT/MONITORING PLAN (continued)

WORKPLACE INFORMATION

Organization: Naval Center for Information Dominance Detachment, Monterey

IH EXPOSURE ASSESSMENT (EA)

NOISE: The measured noise levels of the engraving machine, and most of the upright vacuum cleaners are below the Navy noise criterion level of 84 dBA. Although the measured noise level of the (old) Eureka Precision Triple Filter upright vacuum cleaner generates an instantaneous noise level above 84 dBA, its calculated 8-hour TWA noise exposure is below the NOEL of 84 dBA (based on its measured noise level and duration of exposure).

CHEMICALS: Exposures to solvents and low percentages of sodium hydroxide, ammonium hydroxide, and phosphoric acid present in low toxicity chemical products and the metal polishing pad are not expected to exceed the MSALs and OELs based on minimal usage.
-Copper and zinc oxide (ZnO3) dust exposures from engraving brass nameplates are not expected to exceed the MSALs and OELs based on the brief duration of the process.
-*Toluene, *xylene and other solvent exposures during painting are not expected to exceed the MSALs and OELs based on method of application and dilution of vapors with outdoor air.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Conform XT thin latex exam gloves are worn during use of chemical products. Disposable Sound Guard ear plugs and grinding goggles during use of the engraving machine.

ENGINEERING CONTROLS: None.

RESPIRATORY PROTECTION PROGRAM (RPP): Procedures performed here do not require the use of respirators and personnel do not wear them on an elective basis.

BIOLOGICALS AND RADIATION: Not applicable.

MONITORING PLAN

POTENTIAL HAZARD	NUMBER OF MEASUREMENTS	METHOD OF MEASUREMENT 1	METHOD OF MEASUREMENT 2	FREQUENCY (per year)	MAN-HOURS (per yr)
None					

1 Use the following codes for chemical exposures: not applicable.

Signature: /Signed S. Eric Thurston, Industrial Hygienist	Date: 3 March 2011

APPENDIX B
PERSONAL SAMPLING RESULTS

None collected or necessary in the past 5 years.

APPENDIX C
MEASURED EQUIPMENT NOISE LEVELS

LOCATION	SOURCE	READING, dBA	HAZARD RADIUS, ft
Bldg 629A	Dirt Devil Cyclonic Vacuum Cleaner	77	N/A
	Eureka Precision Vacuum Cleaner	**88**	ER
	Hermes Engraving Machine, Model 1600		
	-Attached vacuuum	76	N/A
	-Engraving plastic	78	N/A
	-Engraving brass	79	N/A
	Destroyit Paper Shredding Machine In Vault*	62	N/A
	Rug Doctor PowerMaid Carpet Cleaner+	85	3
	Rug Doctor Mighty Pro Upright Carpet Cleaner+	94	>20
	Kent Commercial Vacuum Cleaner+	81	N/A
	Quick Klean Sanitaire Upright Vacuum Cleaner+	85	1
	Royal Upright Vacuum Cleaner+	87	5
	Eurocleaner Upright Vacuum Cleaner+	85	1
	Hako Minuteman Wet-Dry Drum Vacuum+	92	ER
	Hermes Engraving Machine, Type M3+	74	N/A
	Sanitaire Model SC679 Upright Vacuum Cleaner+	78	N/A
	Sanitaire Model SC5845 Upright Vacuum Cleaner+	75	N/A

ER = Entire Room
* denotes that the equipment is broken and awaiting replacement.
+ denotes that equipment is no longer present at the command.

APPENDIX D
LOCAL EXHAUST VENTILATION SYSTEM EVALUATION

Local exhaust ventilation systems are not present at this command.

APPENDIX E
RESPIRATORY PROTECTION PROGRAM MATRIX

Respirators are not required during any procedures performed by command personnel, and they are not worn on an elective basis.

APPENDIX F
MEDICAL SURVEILLANCE PROGRAM MATRIX

Medical surveillance is not required based on industrial hygiene exposure assessments. However, enrollment in safety-related programs may be identified by the command’s Safety Manager.

APPENDIX G
OCCUPATIONAL HEALTH-RELATED TRAINING MATRIX

COMMAND: Center for Information Dominance Detachment, Monterey
DATE: March 2011

PROCESS	ESAMS TRAINING MODULE
Chemical cleaning products	Occupational Reproductive Hazard Awareness (1242), PPE (Initial Only) 1398
Painting	Occupational Reproductive Hazard Awareness (1242)
Engraving nameplates	PPE (Initial Only) 1398
Operation of Eureka Precision Triple Filter Upright Vacuum Cleaner	PPE (Initial Only) 1398
Hazardous Materials Use	HAZCOM Initial Training (1169)*, HAZCOM Training For Supervisors (1058)*
Lifting or moving furniture	Back Injury Prevention (40)

All training is required annually except that PPE (Personal Protective Equipment) training needs to be completed only once.

*Per Chapter 6, Appendix 6-B of OPNAVINST 5100.23 personnel also need to receive documented initial training covering their work center's MSDSs, with MSDS training repeated whenever new chemical products are introduced into the workplace.

Completion of additional training modules may be prescribed by the command's Safety Manager, or as automatically prescribed by ESAMS when the user logs onto his or her account.

APPENDIX H
GLOSSARY

TERM	MEANING
AL	Action Level - Normally half of PEL. Exposure level at which air sampling, employee training, and medical surveillance are required.
ACGIH	American Conference of Government Industrial Hygienist
AC/HR	Air Changes Per Hour
ANSI	American National Standards Institute
AQS	Air Quality Standard
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASTC	Aviation Survival Training Center
C	Ceiling - Toxic material exposure level which cannot be exceeded for any length of time.
CFM	Cubic Feet Per Minute
CFR	Code of Federal Regulation
EL	Excursion Limit - Concentration limit which cannot be exceeded at any time.
EAMP	Exposure Assessment/Monitoring Program. A program to evaluate workplace health hazards through surveys and exposure measurement.
EPA	Environmental Protection Agency
ERT	Emergency Reclamation Team
FC	Footcandles
F/CC	Fibers Per Cubic Centimeter. A means for expressing airborne asbestos fiber concentrations.
FeA	Field Area
FiA	Filter Area
FPM	Feet Per Minute
FT3	Cubic Feet
HDI	Hexamethylene Diisocyanate
HEPA	High Efficiency Particulate Air
HM	Hazardous Material
HMC&M	Hazardous Material Control and Management
HW	Hazardous Waste
IES	Illumination Engineering Society
IH	Industrial Hygiene
L	Liter
LPM	Liters Per Minute
LOD	Limit of Detection
LOQ	Limit of Quantitation
MG/M3	Milligram Per Cubic Meter of air. A means of expressing concentrations of dust and metal fumes in the air.

APPENDIX H (continued)

TERM	MEANING
MSAL	Medical Surveillance Action Level. Concentration of air contaminant at which medical surveillance examinations must be provided to exposed personnel.
MSDS	Material Safety Data Sheet. A form used by manufacturers to communicate to users the chemical and physical properties of their products.
MSM	Medical Surveillance Matrix
NAVOSH	Navy Occupational Safety and Health
NEHC	Navy Environmental Health Center
NIOSH	National Institute of Occupational Safety and Health
OEL	Occupational Exposure Limit
OH/PM	Occupational Health/Preventive Medicine
OSHA	Occupational Safety and Health Administration
OV	Organic Vapor
PPE	Personal Protective Equipment
PPM	Parts Per Million. A means of expressing the concentration of gases and vapors in the air.
PSI	Pounds Per Square Inch
RF	Radio Frequency
SOP	Standard Operating Procedure
SQFT	Square Feet
STEL	Short Term Exposure Limit. A 15 minute time weighted average exposure which should not be exceeded at anytime during a workday.
STRESSOR	Potential hazard (e.g. Noise, Chemicals, Dusts, etc.)
TLV	Threshold Limit Value. Established by ACGIH as levels of airborne contaminants or physical hazards under which it is believed workers may be exposed on a daily basis without adverse effect.
TWA	Time Weighted Average. A method of averaging varying concentrations over a specified period of time, usually 8 hours.
UG	Microgram
VOL	Volume
>	Greater Than
<	Less Than